



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/811,668

03/20/2001

Nigel Ashley Preston

2339-0120P

9401

2292 7590 12/24/2003

BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

VU, PHUONG T

ART UNIT

PAPER NUMBER

2841

DATE MAILED: 12/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/811,668

Applicant(s)

PRESTON ET AL.

Examiner

Phuong T. Vu

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet.
37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim recites that the portable device is configured to operate on enclosed electronic process control devices without keypads and control panels which appears to be indefinite and conflicting. If the electronic process control devices are without any keypads and any control panels the electronic process control equipment would not be able receive inputs or outputs in order to function and would not be able to interface with any other equipment. A control panel may be broadly considered to be any control/input/output mechanism such as a single switch.

Claim Rejections - 35 USC § 103

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 103 that form the basis for the rejections under this section made in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 4, 6, 9, 11-12, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crowne et al. (US 5,723,870). Regarding claims 1 and 6, the reference discloses an intrinsically safe portable device 34 for configuring the operation of a time of a level measurement system, said level measurement system comprising a

level measurement device 40 having a wireless communication receiver 44, said portable device comprising an enclosure (the reference teaches that the portable device is a handheld device and therefore would necessarily have a housing enclosure), an electronic circuit (including 58, 62) mounted in said enclosure. Crowne teaches that the device may have an alphanumeric keypad 64 coupled to said electronic circuit, and a wireless transmitter 56 responsive to said electronic circuit and operative to transmit control signals to the wireless communication receiver on the level measurement system for controlling the parameters of the level measurement system. Crowne does not mention that said electronic circuit includes a low voltage power supply, however those skilled in the art at the time the invention was made would recognize that it would have been necessary to provide a power supply which would provide essential power for operating the portable device. Use of power supplies, such as batteries, is expedient in the art for powering portable devices. Crowne teaches providing a microcontroller 60. It would have been obvious to provide a microcontroller that requires low voltage levels generated from a low voltage power supply to increase the allowable operating time of the portable device. This would also automatically function to eliminate the incidence of sparking. Crowne teaches that the portable device is for configuring the operation of a level measurement system but does not teach that the system is a time of flight ranging system for level measurement. Deserno et al. teaches that is known that to provide a time of flight ranging system for level measurement. It would have been obvious to those skilled in the art at the time that the invention was made to modify the level measurement system of Crowne to provide a level

measurement system which is time of flight ranging system as suggested by Deserno to provide a reliable and accurate method of level measurement.

Regarding claims 4 and 9, Crowne teaches that the wireless transmitter comprises an infrared transmitter 56.

Regarding claims 11 and 12, Crowne discloses an infrared transmitter. However, it would have been obvious that a radio transmitter or other suitable type of transmitter may equivalently be used to wirelessly transmit signals between the transmitter and receiver.

Regarding claim 14, Deserno teaches that the time of flight ranging device is configured to use reflected energy pulses to determine a distance to a surface of a liquid or granule.

5. Claim 2 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crowne et al. (US 5,723,870) in view of Deserno et al. (US 6,634,228B2) and Pennisi et al. (US 5,313,365). Regarding claims 2 and 7, Crowne and Deserno do not teach providing an electronic circuit that is encased in epoxy inside the enclosure to provide a barrier against sparking. However, Pennisi et al. teaches that it is known in the art to use epoxy encapsulants to cover electronic circuits to mitigate physical and electrical degradation to the circuits caused by corrosion, moisture, ionic contamination, and mechanical stresses including vibration and shock. The Pennisi reference is relied upon solely for this teaching. It would have been obvious to those skilled in the art at the time the invention was made to provide modify the abovementioned device of

Crowne and Deserno to provide an electronic circuit encased with epoxy as taught by Pennisi for the advantages noted above.

6. Claims 3 and 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Crowne et al. (US 5,723,870) in view of Deserno et al. (US 6,634,228B2) and Pennisi et al. (US 5,313,365) and Nakano et al. (US 5,166,238). Regarding claims 3 and 8, the Crowne and Deserno references do not provide any details about the composition of the enclosure. The Crowne, Deserno and Pennisi references do not teach providing an enclosure formed from general polystyrene polymers. However, Nakano teaches that it is known to use polystyrene polymers to form enclosures for electronic equipment. It would have been obvious to those skilled in the art at the time the invention was made to form the enclosure of the above mentioned device of polystyrene polymers as taught by Nakano as this polymer material provides excellent heat resistance, solvent resistance, mechanical strength, chemical resistance, modulus of elasticity, and dimensional stability. Regarding the claimed surface resistivity, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a polystyrene polymer with a surface resistivity as claimed, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

7. Claims 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crowne et al. (US 5,723,870) in view of Deserno et al. (US 6,634,228) and Leon et al. (US 6,097,306). Regarding claim 5, Crowne only mentions that the portable device has

a transmitter which transmits infrared signals and is silent about how the portable device is powered. Leon shows a portable device powered with a low voltage power supply comprising a single cell lithium battery. The Leon reference is relied upon here solely for this teaching. It would have been obvious to provide a single cell lithium battery as the power supply in the portable device as taught by Leon to conserve space in the portable while providing a reliable, rechargeable means for powering the portable device. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide an operating voltage of 3 volts since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Crowne et al. (US 5,723,870) in view of Deserno et al. (US 6,634,228) and Woodward et al. (US 4,831,565). Regarding claim 13, Crowne and Deserno do not teach that the portable device is configured to operate on enclosed electronic process control devices without keypads and control panels. However, Woodward teaches that it is known to replace the keypads on an enclosed electronic process control with an infrared receiver for communication with an infrared transmitter. It would have been obvious to those skilled in the art at the time the invention was made that the keypads of the enclosed electronic process control device of Crowne and Deserno may be removed and replaced with an infrared receiver to simply and improve the design of the abovementioned system as taught by Woodward.

Art Unit: 2841

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong T. Vu whose telephone number is (703) 308-0303. The examiner can normally be reached on Mon. & Tues., 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on (703) 308-3121. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

PTVu



December 9, 2003